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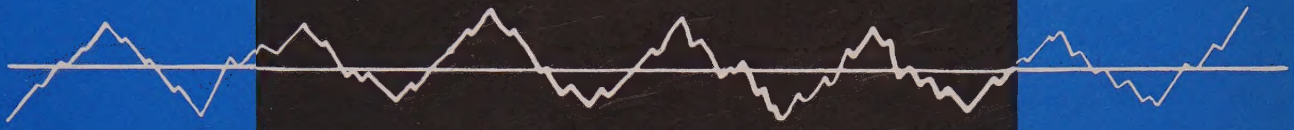

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Director's Letter

Dear Member:

A good friend of the Foundation passed judgement upon me the other day:

"You have missed the boat all the way around," he said.

"If you had only been a charlatan you could have had the world by the tail! The subject of cycles, like the subject of astrology, is ready-made for charlatanism. Just by being arbitrary, dogmatic and loud mouthed you could have had an *immense* following. I used to be a magazine publisher and I know what I am talking about. If you had been a crank or a faker you could have been rich! But you weren't, and all you get out of a life's work is a pittance.

"On the other hand, if you had presented your astonishing discoveries in scientific form you could have made, by this time, a very considerable scientific impact. But you didn't do this either.

"You have fallen between two stools. You have neither wealth and the acclaim of the masses on the one hand, nor any adequate scientific recognition on the other. Except in the *Journal of Cycle Research* your writing doesn't have the back-up or the detailed exposition that the scientific fraternity demands. Yet because you are a true scientist, your caution, your conservatism, and your lack of flamboyance fail to create the support that is accorded to a Dr. Cook, to a Hoxie, or even to a huckster of good old fashioned snake oil. You are nuttin'!"

There is much in what my friend says. I've had to walk a middle road, and, as my friend suggests, it's a road that leads neither to fame nor to fortune.

The Pioneer

You can think of the pioneer (be he scientist or layman) as one who hacks his way through the underbrush—think of the other scientists as folks who ride in automobiles. If the pioneer does not do a good enough job of clearing the road, the others cannot follow. And, to continue the anology, unless the path hacked out by the pioneer is traveled by others, it will soon become overgrown and obliterated. It will have to be discovered all over again—maybe a hundred years from now!

Stock Price Cycles

I've been asked to speak to the New York Chapture on December 16th on the subject "A Review of My Stock Market Predictions."

In thinking over what I might say I have been impressed by the basic difference between the point of view of the practical market operator and that of the scientist who wishes to learn something about cycles.

The market operator or investor wishes of course to buy and sell at a profit. He values a forecast only as it helps him to do this. Gain is his sole yardstick for judgement. From his point of view any cycle forecast must also include a projection of the underlying growth trend, as this has a bearing on what will actually happen. And, obviously, the forecast must be available to him ahead of time.

The scientist on the other hand may measure success or failure by totally different yardsticks. For instance, he may wish to know the number of times the *direction* of the move was correctly forecast, or the accuracy with which the *extent* of the move was indicated (in contrast to *time of turning points*, which is of chief concern to the speculator). Moreover, in a cycle study the scientist will want the forecast of the cycles to be separated from the forecast of the basic underlying growth trend. He doesn't wish a strong growth trend to bail the cycle projection out of what might otherwise be a failure, or vice versa. And finally he doesn't much care when the "forecast" is made as long as no figures past the stated date are used in making it. For example, it is on my docket to make a forecast of grasshopper abundance in the United States, 1940 forward, using figures 1840 to 1940. I have a letter in my desk which, I presume, contains figures from 1940 on, but I have never opened it. I don't intend to until I have time to complete my forecast. From the standpoint of the scientist such procedure will show as much as if the forecast had been made on December 31, 1940 (but it won't help the farmer to combat a grasshopper plague in 1954, if such a plague were in the cards).

What will this grasshopper forecast—or any other forecast for that matter—show the scientist? It will show him whether or not the cycles have any significance. More exactly, it will tell him how valid the cycles are. If the forecast pretty well predicts the future, the forecasting method probably has merit and the cycles probably have validity; if it fails, the method and the cycles get black eyes. Thus, if the cycles keep on coming true more or less as predicted, support is given to the idea that rhythmic cycles are inherent in the structure of the thing that is being studied; and of course if the projection fails, the opposite is true.

Now suppose a certain cycle projection turns out to be substantially better than could be expected as a result of chance. So what? The scientist pricks up his ears because this fact indicates that we have *structure* and *pattern* in something hitherto considered amorphous (structureless). It is as if, in dropping and breaking a particular sheet of glass, the pieces all turned out to be two inch squares instead of all kinds of odd jagged shapes. "What sort of glass is this?" you would say.

There is something in the behavior of certain phenomena that gives them structure, pattern, and thus, at least to a certain extent, *predictability*. Everyone knows that this "something" exists in weather, and in the alternation of night and day (and knows what it is), but the world had to wait 4,000,000,000 years for someone (Samuel Benner) to come along and show that the same sort of behavior is present in commodity prices. The really important thing is not how well forecasting of this sort can be done (at the present time); the important thing is that it can be done at all!

You remember that Leeuwenhoek, in 1677, looked through his little homemade microscope and saw, for the first time in history, the little wiggling creatures in a drop of pure rain water. He then repeated the experiment with spittle, urine, and everything else he could get his hands on. He found microbes everywhere. He opened up a whole new *world* of knowledge.

In the beginning this knowledge was of no practical importance. It didn't put any money in his right hand trousers' pocket. It didn't keep him from coming down with polio, or help him to recover from an attack of pneumonia. All such practical matters were over 200 years in the future. All Leeuwenhoek did was to show that there was something here worth learning more about. And, basically, that is all our cycle scientists are doing today. If they make forecasts, it is merely to see if the forecasts will come true. If they measure cycles, it is merely, by measuring, to see which cycles are related to each other and thus, perhaps, to get light in regard to cause.

From the point of view of the scientist the only virtue of a forecast is the light it throws on the question, "Was the hypothesis right?". That is, from a study of certain past figures the cycle scientist discovers, let us say, a nine year cycle. From this fact he deduces that a nine year cycle may be a basic characteristic of these figures. He then proceeds to make a forecast. If the forecast comes true better than a forecast made by drawing numbers from a hat, he has support for his assumption. The harder it would be to get a forecast as good by chance alone, the more support he gets. If the forecast fails he sees that he may have been barking up the wrong tree. It's as simple as that!

I'd like to illustrate the difference between what I call honest-to-goodness scientific research and the sort of research in which we ordinarily engage.

Hog Prices

One of our members wrote in recently to ask if there was a cycle in hog prices and, if so, what it was and where we were in the current wave.

We didn't know, for we had never investigated cycles in hog prices. However, the subject seemed to us to be of considerable interest to a good many of our members. We therefore decided to have a look. (The fact that the member who wanted to know had made a rather nice contribution had a bearing on the matter too!)

We charted such hog price figures as we had conveniently available and discovered that, in recent years, there had been a very good 38 month cycle. This fact was encouraging.

We then wrote to the Department of Agriculture for monthly figures as far back as they were available. They sent us figures back to 1900. This series of figures was long enough to give us over 18 repetitions of the cycle, if it should happen to be present all the way back. It was.

In the meantime, from our library, we discovered that Professor F. C. Mills of Columbia, in 1927, had stated that there was a 38-month cycle in hog prices.

Then, as a check, we looked up some *annual* hog price figures as published by Samuel Benner in 1874 and found that they gave evidence of this 38-month cycle from 1856 (the earliest figures given by Benner) to 1873. This was convincing indeed.

We then published the results of our research in *Cycles*, as you can see by reference to pages 221 to 227 of the October issue.

This work was done carefully, accurately, objectively. The write-up in regard to it covered all the fundamental facts we had learned—the length and the timing and the strength of the cycle.

Why then don't I call our work "honest-to-goodness" cycle research? What else would have to be done to make "honest-to-goodness" scientific research out of it?

Honest-to-Goodness Scientific Research

Let's pause a moment to see what we mean by honest-to-goodness scientific research—what such research should accomplish.

1. Scientists should see the results.
2. It should appeal to scientists as being scholarly, erudite, and done by someone who "belongs to the union" as Professor Smith of Yale phased it once.
3. It should be published where it will become part of the permanent literature of science.
4. The exposition should be complete enough so that, at worst, any competent person could duplicate it—so that, at best, any competent person can pass judgement from the evidence presented without having to do the work all over.
5. The research should exhaust the subject—squeeze it dry of all facts that would throw light in regard to *cause*.

Now, with these thoughts before us, what's wrong with our hog price research from the standpoint of science?

First, it was published in the wrong place. *Cycles* is a semi-popular magazine. True, many libraries subscribe to it, but they are not likely to bind it and add it to their permanent collection. It is not seen by scientists. It is not indexed by the periodical indexing services and never will be. Anything written in it is *lost*, as far as science is concerned.

Second, it was written up in the wrong style. Scientific writing is *formal*. *Cycles* articles are *informal*. To carry weight with scientists, exposition must be in the accepted pattern.

Third, for the scientist, the write-up was incomplete.

Fourth, although the research was good as far as it went, it did not go nearly far enough. Remember that from the standpoint of cycle study we are concerned with *the cycle as such*. Hog prices are merely the vehicle by means of which the cycle is expressed. With this in mind, what else should be investigated?

1. The study should be carried out over a much longer period of time. Monthly hog prices are surely available for a hundred years or more. If not, someone should be stimulated to collect them.

If a 38-month cycle is present in hog prices it is likely present in pork prices also, and these are available by month back to 1720. The study should perhaps be switched from hogs to pork, or supplemented by a study of a 38-month cycle in pork.

When hog prices are up corn prices are supposed to be down, and vice-versa. This suggests that there might be a 38-month cycle in corn prices too. And corn prices are available, by month, back to 1720.

Why do we need such long series of figures?

First of all, so as to see if the length of the cycle varies over long periods of time, or is constant. Which of these is true throws light on *CAUSE*. If the cycle is of unvarying length, this fact suggests an external cause of perfect regularity, like an alternating electric current. If the length of the cycle varies, there is the suggestion of an internal dynamic cause or of some irregular cause.

Secondly, we need long series of figures to give the fullest possible substantiation to the cycle. A cycle that keeps on coming true for twice as long is not twice as likely to be significant but four times or eight times as likely. This added length also throws light on *CAUSE*. The longer the cycle persists in phase (in step with itself) the less likely the cause could be internal.

Thirdly, we need long series of figures in order to get cycle length as exactly as possible. The longer the string of prices the more exact can be the measurement of length. And this information is needed in order to trace *CAUSE*, and to determine whether or not one cycle is related to another.

2. The second main thing that needs to be investigated is whether or not the irregularities of length and strength are systematic. Do crests come early or late in any *pattern*. If so, our *predictability* is greatly improved (because we can know that the *next* crest will be early or late as the case may be). Moreover, if there is something else that varies in length in the same way we again have light on *CAUSE*.

3. The third thing that needs to be investigated, from the standpoint of cycle study *as such*, is the extent to which a cycle of this length is present in *other* phenomena—particularly natural science phenomena such as the thickness and thinness of tree rings and rock strata, the variations of climate, the abundance of animals, the number of sunspots, etc. etc. That is, having demonstrated that a cycle of this length is significantly present in hog prices we have a clue that can be run down in a great variety of phenomena.

In A Nut Shell

Our research, as illustrated by our study of hog prices is fine as far as it goes. However from the standpoint of cycle study it does not go anywhere nearly far enough. And even such partial scientific value as it has is ruined because the results are not published in the form or in a place where it will help foster and promote the subject of cycle study as such. Without proper publication scientists will not know of it. Unless they know of it they will not carry on the work. Much study, by many people, is needed in order to know *CAUSE*. We need to know *CAUSE* in order to know *LAWS*. We need to know *LAWS* in order to make dependable *PREDICTIONS*.

The Research Program

During the past two months we have been querying some of our older members regarding the advisability of launching what I call an honest-to-goodness basic research program.

Such a program will cost money. We figure a *minimum* of $20,000 a year for *at least* three years will be needed. We asked our members if they thought we should try to raise this sum.

The answers were *overwhelmingly* "Yes!" Of hundreds of answers received all but three said, "I'm favorable! Go ahead..."

Of the three members who opposed the plan, two said they were favorable to the *idea* but thought that this was not the time to try to do it. The third man, too, was favorable to the idea, but felt that we should try to raise quite a lot more than $60,000.

In a way, the third man is right. Twenty thousand a year for three years is pretty lean for a basic scientific research program. In my opinion, forty thousand a year for ten years would be just right. From the way cash and pledges are coming in (nearly $30,000 so far) $60,000 would seem to be obtainable. Substantially more than this may be too much to hope for.

The giving of money obeys the laws of Social Physics. These laws mean that a very few people must give relatively large amounts; a moderate number of people must give moderate amounts; and a great many people must give small amounts—if the campaign is to go over. You'd be surprised how accurately these laws of Social Physics operate.

Knowing what I do about these laws I have set the following schedule of about what we must get from various people:

1 contribution of $2,500 a year

2 contributions of 1,000 a year
3 or 4 contributions of 500 a year
6 or 8 contributions of 250 a year
25 contributions of 100 a year
and a host of $75, $50, $25, and even $10 ones.

There is no doubt in my mind but that the campaign will go over. The money will not flow in by itself. To raise it will take some hard scratching. But success is attainable.

I say this because the response to my letter was so enthusiastic. Although my letter did not ask for any money, *scores* of members volunteered support and many more made actual pledges and/or sent cash.

A quarter of the necessary money was already pledged *in advance of any request of funds!* I call that mighty handsome! Also, as I write, over nine thousand in *cash* has already come in!!!

Many of the letters were very moving. Here are three samples out of many I could give:

A man from Chicago wrote, "It would be a good program. I'll start it off...I don't think anybody gives a dam about anybody else, but I think I should tell you something about myself. I'm just...an ordinary fellow 64 years old, just now working as a receiving clerk, but I'm not much interested in any work as such. I'm really more interested in worthwhile projects like your cycles, and I do like your attitude, so I will do what I can to help it along." (He enclosed $20!)

A man from Philadelphia said, "It is my considered opinion that you should proceed with your proposed research program.

"I do not feel that I can be of much help, but I believe I can assure you of $100 for each of the three years from my personal account. In addition, I believe our company will also be glad to subscribe an additional $100 for each of the three years.

"This is only $600, but if all the members contribute accordingly you may make out well enough..."

A man vacationing in New Hampshire wrote in longhand to say: "...count me in for $1,000 a year for three years, but I suggest that it be paid all at once whenever you call for it because I am eighty years old."

With support like this how can we fail? Doesn't it warm your heart?

Foundation Money

Of course we had the usual sprinkling of letters suggesting that we try to get the money from one of the large foundations. One member was kind enough to write to one of the trustees of the Rockefeller Foundation on our behalf. Naturally nothing came of it.

I should probably explain why I use the word "naturally."

Nearly 20 years ago Dr. Allan Gregg, at the time Director of the Medical Division of the Rockefeller Foundation, *asked us* to ask the Rockefeller Foundation for some money. (Note that we didn't ask him. *He* came to *us*.) We asked. But even with his support as head of one of their three main divisions, we were turned down.

Doctor Gregg was so enthusiastic about what we were trying to do that he accepted membership on our Committee on the day he retired from the Rockefeller Foundation. He then suggested that we again ask Rockefeller for some money. We asked, Again we were turned down.

If, with one of their three key men rooting for us from the inside, we couldn't get any help—if with their ex-Vice President (over the years Doctor Gregg had been promoted) on our Board of Directors we were turned down—what could a mere trustee do to help us? Nothing, of course.

The answer is that projects such as ours simply do not fit into the set up of large foundations such as Rockefeller, Ford, and the others.

At one time or another I have sought help from most of the larger foundations. I know something about how their hired hands think—and operate. I have had very frank advice from those in a position to know much more than I. It all adds up to the conclusion that it is a waste of time to try to get help from *any* of the large funds. Money is available to record the markings on butterfly wings, money is available to encourage artistic dancing, money is *not* available for projects such as ours!

Dr. Gregg was—as you must realize by now—a great man. His philosophy about how to administer research funds was, briefly, as follows:

(1) Make a list of things it would be worth while to do.

(2) For each item on the list, wait until the right man comes along.

(3) Then give this man enough money to do the job.

Doctor Gregg included the study of cycles in his list of projects that ought to be done. (In fact he had a whole file on the subject—which he turned over to us and which is now part of our library.) He thought that something important might come from such a study. Oddly enough, so do I!

Where does this leave us? Just here: It *may* be possible to secure some help from some of the *smaller* foundations. It *may* be possible to get some help from an *individual* of means, such as Mr. Rockefeller personally as distinct from the Rockefeller Foundation or Mr. Ford personally as distinct from the Ford Foundation, or from other men of wealth and vision. But for at least the present, the main load must be carried by the Foundation for the Study of Cycles itself—and this of course means *you*!

Cordially yours,

Edward R. Dewey

Director

Research by Staff

THE 17-WEEK CYCLE IN INDUSTRIAL STOCKS

BY E. R. DEWEY

Something over a year ago I told you about a most interesting cycle in common stock prices that was ideally 17.12 weeks long from high to high and from low to low.

I told you that this cycle had been present in the Standard & Poor's Combined Index from 1928 forward. (It is present prior to that time, too!)

I told you further that Kenneth Carney, one of our correspondence course students, had written in to say that he had discovered this cycle independently 4 1/2 years previously (i. e., early in 1954); that it was present in the prices of many individual stocks.

In his letter confirming our work in this cycle Carney said, as I reported to you, "I found it in many individual stock prices—but with highs and lows in some coming 4 weeks before those in others. Your 17-week cycle in the composite is timed exactly between these 4-week dates—and accounts for the small amplitude (strength)."

Finally, I showed you that this cycle, over the years, came and went. Although we did not find any rhyme or reason to the coming and going of this wave, D. S. Castle suggested that the coincidence of this wave and other important waves may be the reason.

The 17.12-week cycle is like the little girl—when she was good she was very very good; when she was bad she was horrid. This "little girl" is good 73% of the time.

How has this cycle worked since discovery?

About the middle of August we had a letter from a man in New Hampshire who asked where we were in the 17.12-week cycle. We told him that the average cycle was on its way down from a high due ideally, the week of July 15. By this time (September 24th) he probably thinks the 17.12-week cycle is the path to a pot of gold. The purpose of this article is to tell him—and you—that it isn't!

When it's good this cycle has been very very good, but as yet we do not know how to tell, in advance, when it is going to start—or to stop—being good. Moreover, the July—September decline may not be caused by the 17.12-week cycle at all. The fact that, for the past two months, stock prices have conformed dramatically to the 17.12-week projection should not mislead you. This may be the start of another run of 17.12-week cycles, or it may be merely coincidence.

Once a little boy of four, riding on the elevated in New York City, clicked the window catch, The train started.

"Ha!" said the little boy, "Now I know how to start the train!"

At the next stop he clicked it again. But the train didn't start. The crestfallen little boy had

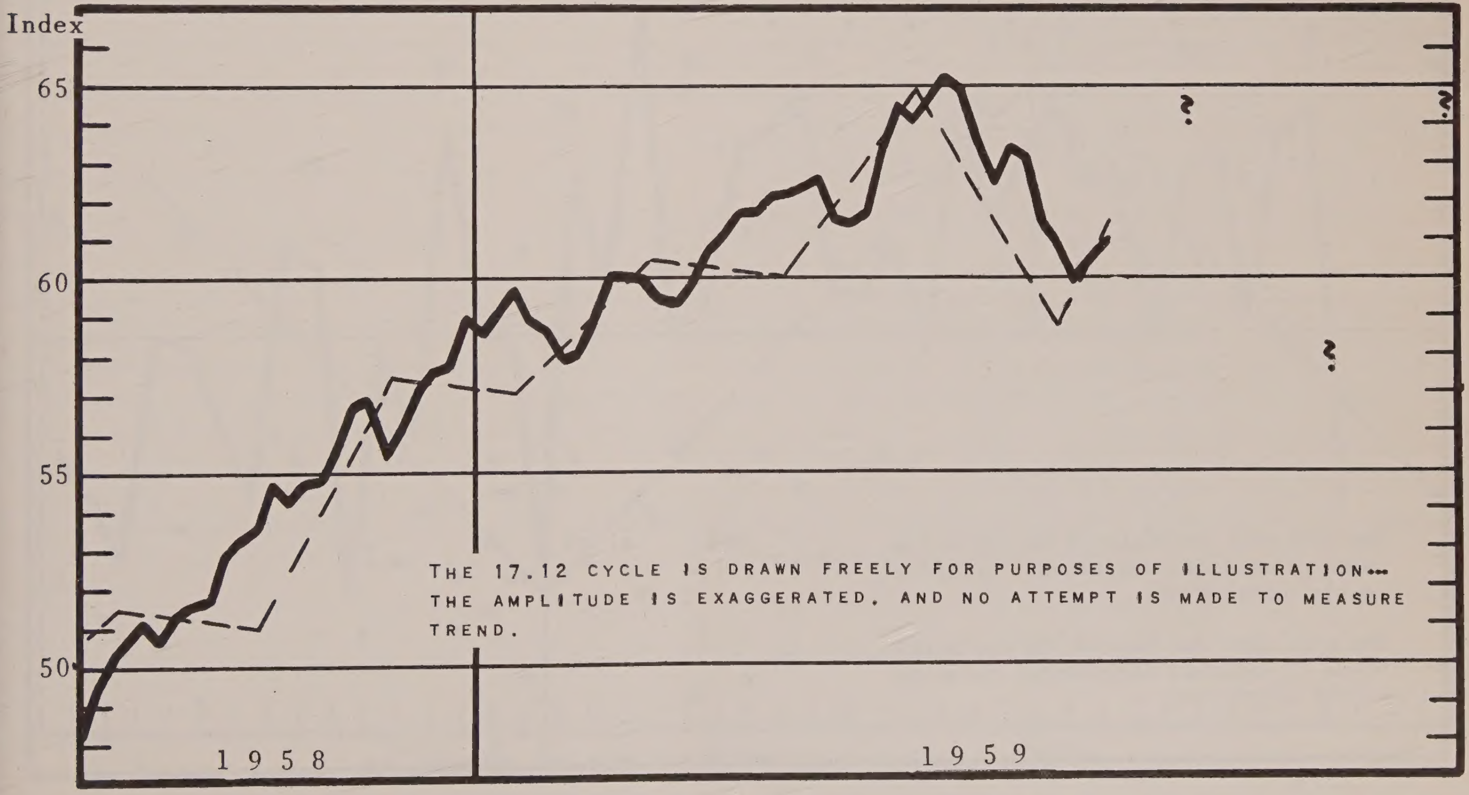


Fig. 1 The 17.12-Week Cycle in Standard & Poor's Industrial Stock Price Index Compared to the Actual Weekly Index, July 16, 1958 through September 30, 1959

been too smart for his breeches. Don't you be like that little boy!

All of this illustrates the need for basic research. A cycle as persistent as the 17.12-week cycle (in 1949 a friend of mine, Alex von Reuter, traced it back to 1890) cannot be laughed off. Yet, until we know *cause* we can no more predict its exact behavior than, without knowing cause, we could predict eclipses of the moon.

From a practical point of view, however, the cycle student knows from this work with a market *average* one of the waves to look for in price records of *individual issues*. He knows that it probably will not operate all the time, but that when it is operating he can *combine it with the other short waves* he finds to get a possible projection.

There have been 94 repetitions of the 17.12-week cycle since 1928. Of these, 69 have been what you could call "good" and 25 have been "bad". The record goes like this:

Beginning in 1928-14 good then 3 bad
2 good then 2 bad
7 good then 2 bad
4 good then 5 bad
15 good then 6 bad
18 good then 2 bad
9 good then 5 bad ending in 1959

This comparison is based on the cycle as it is seen in the smoothed deviations (chart on pages 264 and 265 of the October 1958 issue of *Cycles*).

The chart on the previous page shows the actual weekly figures and the ideal 17.12-week wave.

It will be interesting to see if the run of poor 17.12-week cycles is over.

The figures are Standard and Poor's Industrial Stock Price Index as of the Wednesday close. They are carried in Thursday's newspapers. If the long run of 5 poor cycles is over, we may expect the re-emergence of the cycle to be reflected to some degree in the original figures.

But, however the cycle behaves in the immediate future, over the entire 1928-1959 period the performance has been consistent enough so that we believe it to be a real cycle. (Filling in the blanks in our knowledge is on the agenda.) The chart below compares the individual highs and lows with the average timing of all of them.

Note the concentration of highs about ideal time of high; the concentration of lows about ideal time of low. If the behavior were random the highs and lows would not cluster.

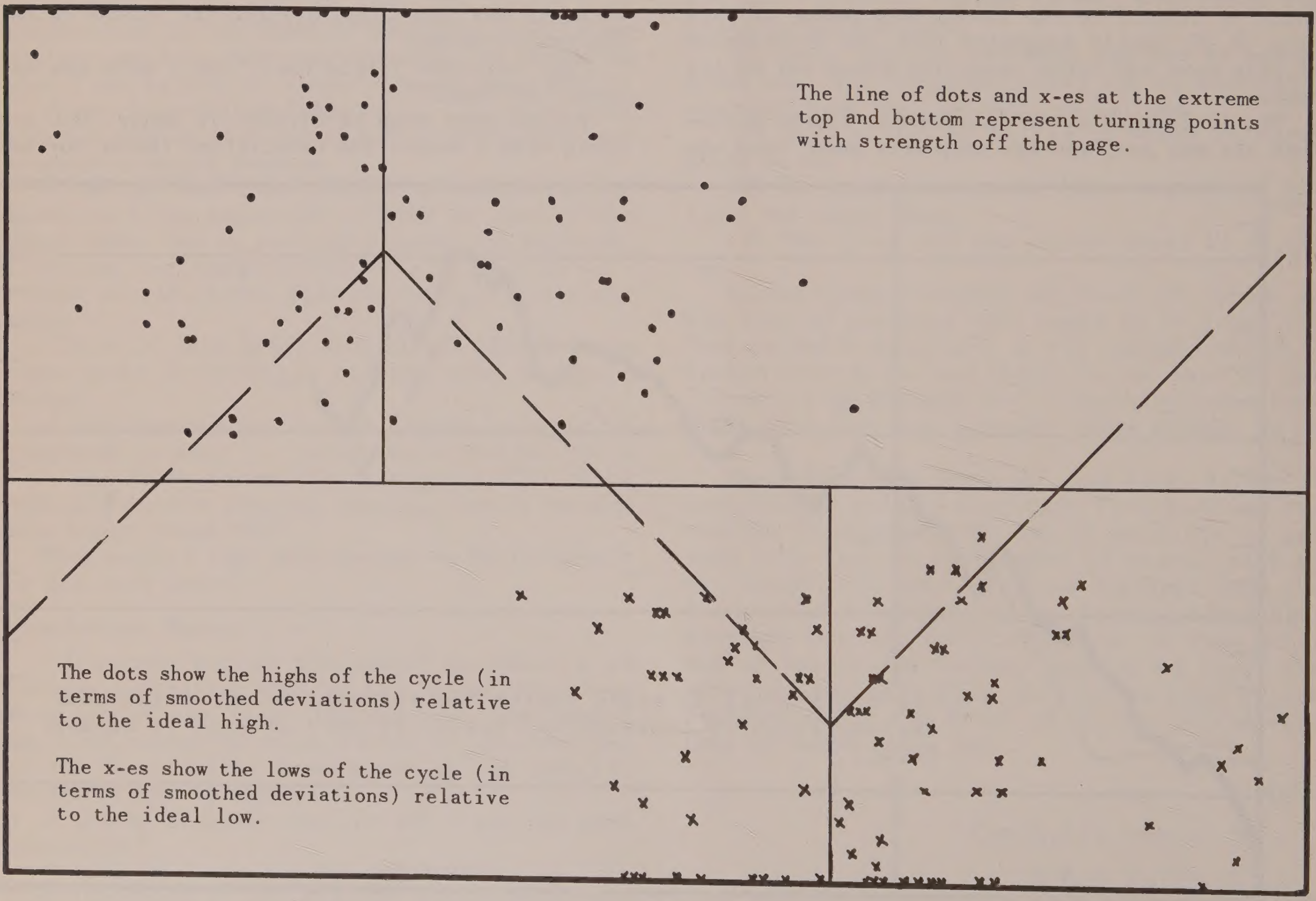


Fig. 2 The 17.12-Week Cycle in Industrial Stocks—Comparison of the Relative Positions of the Highs and Lows of the Cycle with the Ideal High and Low

THE 3.9-YEAR CYCLE IN GRASS SEED PRODUCTION

BY G. F. SHIRK

The production of Kentucky bluegrass seed has always fluctuated in what at first glance appears to be a wild series of severe ups and downs. There is a pattern to this behavior, however.

The pattern is this: during the period 1919 to date, high levels of production have tended to follow each other every 3.9 years, on the average. The last average (ideal) high was the crop year 1958—the next high can be expected about 1962, if the series continues to fluctuate in the future as it has in the past.

The chart below shows the actual record of the production of bluegrass seed by means of the solid line. The average timing of the highs of the 3.9-year cycle is shown by the arrows.

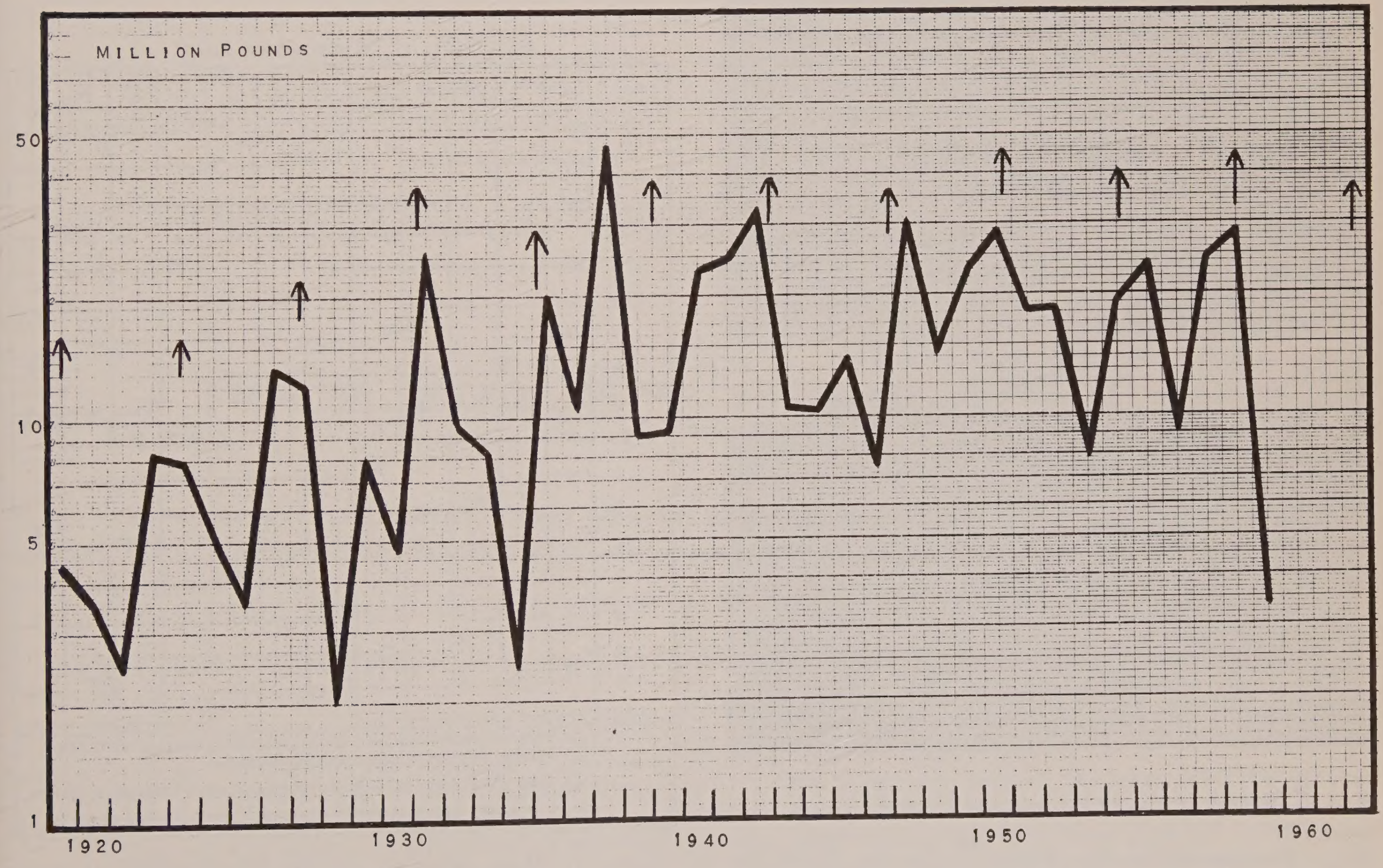
Since 1958.4 the cycle has been going down. Production of bluegrass seed in 1959 slumped to its lowest level since 1934, but the cycle is of course only partly responsible. The severity of the drop must be due to other factors. Early 1960 will be the low in this cycle, and the next top is due, on the average, in 1962.

We are so used to economic series going up and up, and even when they dip still remaining at a relatively high level, that it is grimly interesting to find a series which has literally collapsed within the past year.

In the crop year 1958 the production of Kentucky bluegrass seed amounted to 28.8 million pounds. In 1959 production fell to 3.4 million pounds, a drop of 88.2%.

A glance at the chart will reveal that such slumps are not unusual in grass seed production. Also, the regularity is apparent on the chart. Only once in 11 repetitions was the cycle performance so poor as to be upside down.

Currently, the low is early, and too deep, but if future behavior follows past patterns, the series will shortly turn upwards toward the next top.



Annual Production of Kentucky Bluegrass Seed Together with 3.9-Year Cycle Highs

Research by Others

THE 9.7-MONTH CYCLE IN "WIDEAWAKE FAIRS"

In the summer of 1942 the Air Force built a landing strip on Ascension Island in the South Atlantic as a stopover for short range bombers on the way to Africa. Ascension Island is famous as the nesting ground of an estimated one to two million sooty terns. But the Air Force did not know that the birds return *regularly* (about every 9.7 months) to their breeding grounds.

If the Air Force had been aware of this cycle in advance of building the strip, they would have known that just about the time the field was completed, the terns would start to come in from sea to hold their nesting "fair." It happened that the landing strip had been built in the middle of the favorite fair grounds of about 100,000 of the terns, or wideawakes, as the natives call them because of their nighttime restlessness.

The birds were more than a nusiance, they were a danger to the flyers. They would swarm up in great numbers when planes took off. The Air Force had promised to respect the flora and fauna of the island, so they consulted the ornithologist Dr. James P. Chapin of the American Museum of Natural History.

After checking off as impractical several ideas for making the birds move, Chapin hit upon the simple process of breaking the eggs. He found that the parent bird rarely returned to the scene of a nesting that had ended in disaster. By forcing the adult birds to move he saved the adult breeding stock, to say nothing of the airplanes and pilots.

Ever since his World War II engagement with the birds, Chapin has been following the fortunes of

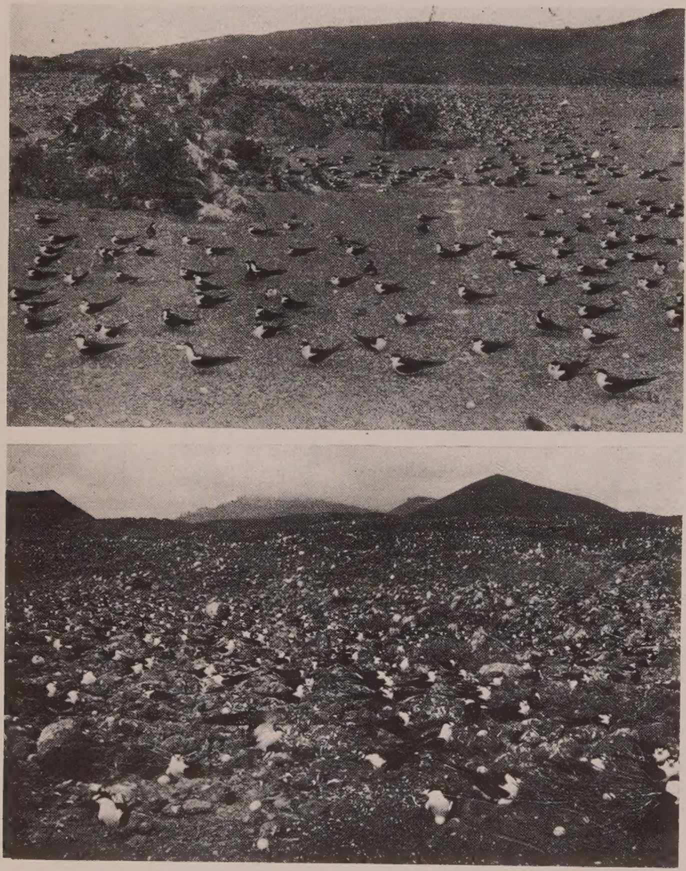


Fig 1 Sooty Terns on Ascension Island

This photograph by Dr. James P. Chapin first appeared in the January 1954 issue of the *Auk*, and is reproduced with permission.

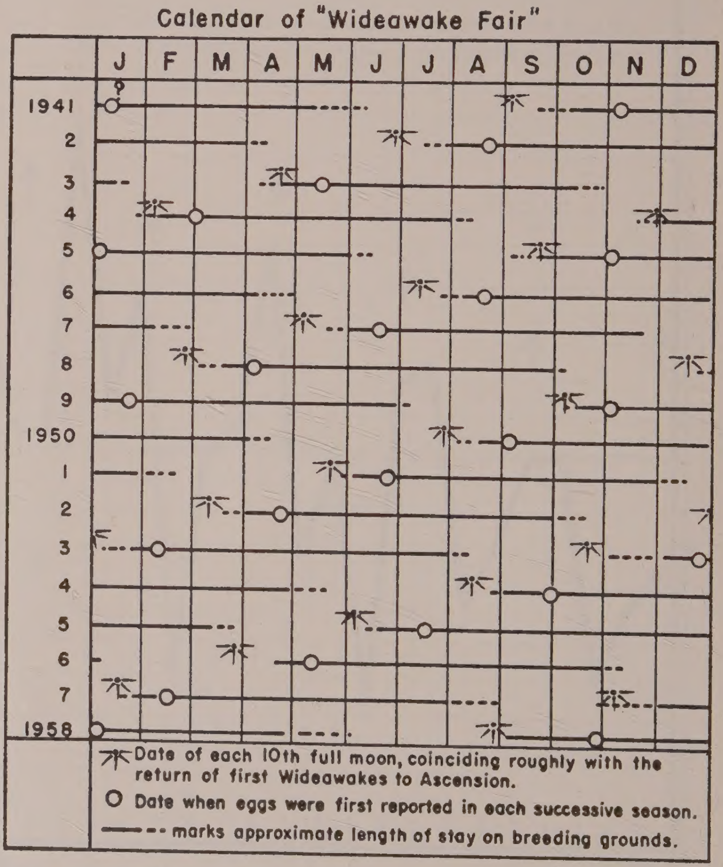


Fig. 2 This drawing of the "Calendar" is from The April 1959 issue of the *Auk*, and is reproduced with permission.

Fig. 3 Sooty terns on Ascension.

This photograph was made by Dr. Chapin on Ascension Island, and was printed in the January 1954 issue of the *Auk*. It was reproduced with permission.

the wideawakes at Ascension Island. In 1954 he published "The Calendar of Wideawake Fair" in the January issue of the *Auk*. More recently, the April 1959 issue of the *Auk* carried an article "The Wideawake Calendar, 1953 to 1958" by James Chapin and Leonard Wing which brings the story of the terns up to date.

The "Calendar" of the wideawakes is the record of their regular recurring return to Ascension Island to nest, and the dating of the appearances of the first egg.

This return recurs every 9.7 months. Dr. Chapin has been able to arrive at this cycle length by collecting the dates over a 17-year period. Many people who have happened to be on Ascension Island have cooperated with him in supplying the dates that are used.

The birds in our own temperate climate have an annual breeding cycle, as you know. Ascension Island is near the equator, however, and there is no distinct seasonal variation in the weather. There is little change in the amount of daylight from season to season and the terns apparently respond to forces other than the seasonal change in the weather.

It happens that the return to Ascension corresponds roughly to every 10th full moon. The time of the full moon is noted on the calendar.

Figure 4 below is drawn to show the correlation between each succeeding 10th full moon, and the appearance of the first eggs. The behavior of the wideawakes suggests to Dr. Chapin that equatorial birds may be expected to have non-annual rythms. Just why every tenth lunar month should "trigger" the terns remains a mystery.

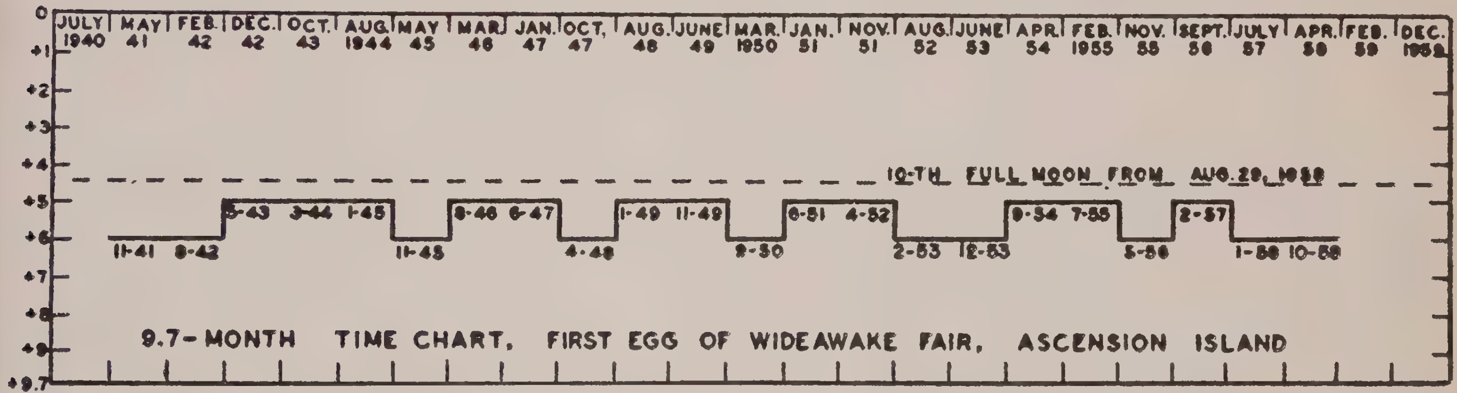


Fig. 4 Dates of First Eggs on a Time Scale of Ten Lunar Months, 1941-1958

This chart first appeared in the April 1959 issue of the *Auk*, and is reproduced with permission.

Fig. 4, which is from the article "The Wideawake Calendar, 1953 to 1958", (April 1959 issue of the *Auk*), is described thus by the authors, Dr. Chapin and Dr. Wing:

"The top of the chart is arbitrarily divided into 9.7-month intervals (ten moons) beginning with July 1940. Downward, the time chart has 9.7 divisions. The bottom of each column is thus the same as the top of the next adjoining one, for both are 9.7 months apart.

"The first egg date of November 1941 is plotted six months down from May 1941 in the second column. Succeeding egg dates are plotted in the same way, months being used because reports of first eggs may not be sufficiently accurate for closer plotting."

AN IDEA ABOUT THE 54-YEAR CYCLE

BY J. F. DANSON

When working on the British Consols Price Series, I came upon an interesting point. In looking for the 54-year cycle, found by Kondratieff—when using this series inverted, I could only get a 59-year cycle. I adjusted the series for eight other cycles which appeared important, ranging from 36 years downwards, and then superimposed the 54-year cycle. The result is shown below on the chart as Curve A. It did not seem a very happy result. Later I isolated two cycles, one of 61.4 years, shown as Curve B, and the other 54.9 years, shown as Curve C. I superimposed the synthesis of these two cycles on Curve A, and the result is shown in Curve D. This has a much better look.

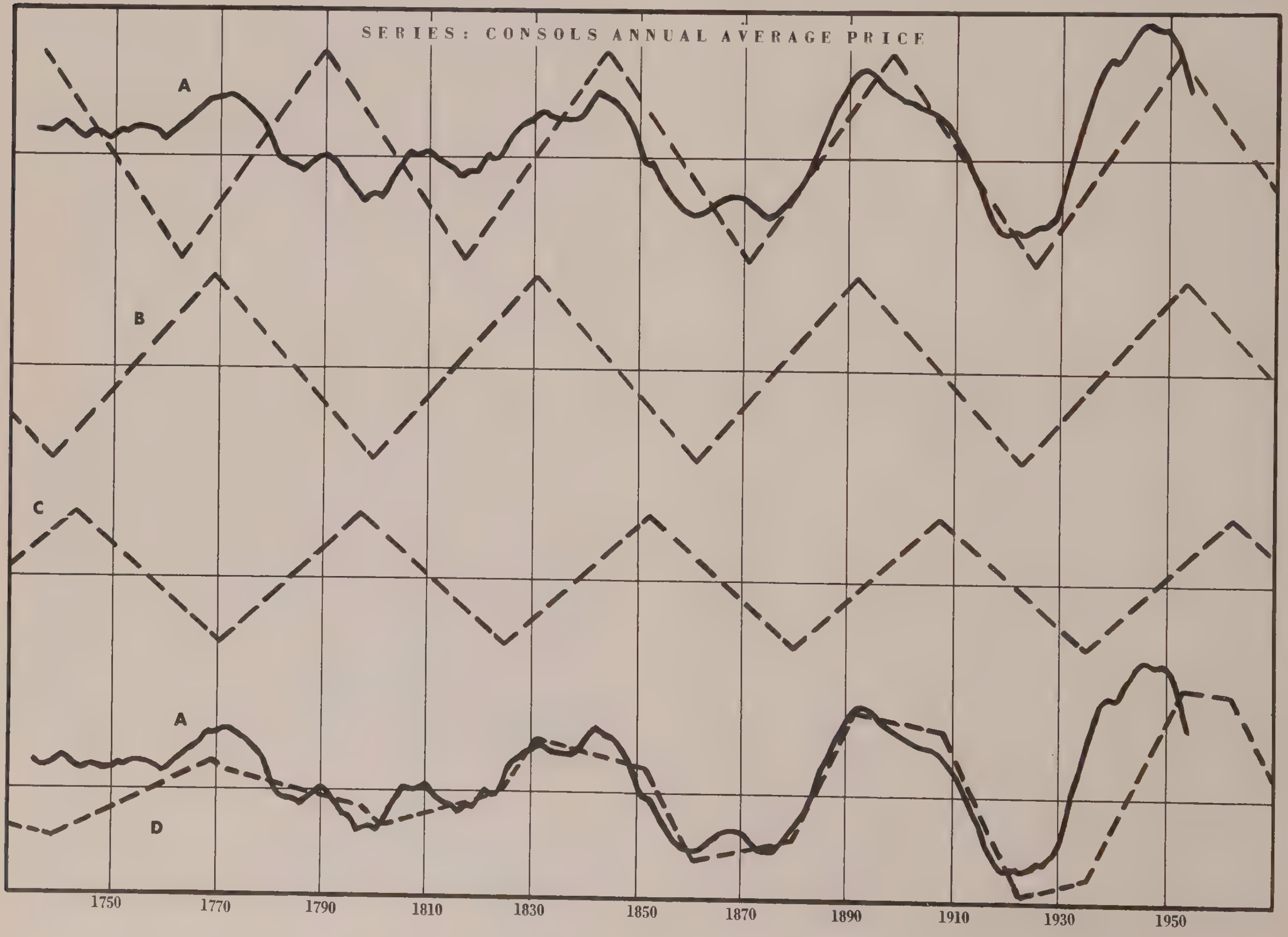
This made me wonder whether the 54-year cycle is really much more prevalent than has so far been recorded and is actually present in series where so far it has not been found because it is compounded with a cycle of around 61 years in length, or some other similar cycle. Further, if the 54-year cycle is found compounded with a 61-year cycle, it might not be visible at all.

To put the hypothesis to test, that the 54-year cycle sometimes occurs compounded with a 61-year cycle, thus masking both of them, I thought it might be worthwhile to look at other long time series where the 54-year cycle had not been definitely found.

I made a partial reconnaisance of the International Battles series and have concluded that both the cycles are probably present in the 57-year cycle you found.

The next series I shall tackle is the British National Debt. I have an index which I compiled by approaching the Director of the National Debt Office in London, who courteously allowed me to wade through their files of White Papers presented to Parliament about the National Debt. From these I have extracted an annual series ranging from £.6 millions in 1694 to no less than £ 27,038.8 millions in 1956, a fantastic record!

We will need many instances of the 54-year cycle compounded with the 61-year cycle to make my hypothesis possible, but if the 54-year cycle is found to be more widespread than suspected, it may be of help to those who are studying this cycle and trying to get at the cause of it.



THE SEASONAL CYCLE IN QUAKER SPEAKING

Vocal ministry at Quaker meetings increases in the fall of the year. Apparently there is an increase in spontaneous speaking at the same time as there is a general increase in intellectual activity.

The charts at the bottom of the page illustrate these phenomena.

Figure 1 below shows the seasonal frequency of vocal ministry at the Orange Grove Friends Meeting. The other charts compare this seasonal frequency of vocal ministry to some of the measures of intellectual activity used by Ellsworth Huntington in *Mainsprings of Civilization.*

The solid line on the Figure 1 is the yearly pattern of speaking at Orange Grove. This solid line is repeated on the other charts.

The broken line on Figure 2 is a picture of the seasonal pattern of participation in regular meetings of engineering societies.

The broken line on Figure 3 is a picture of the seasonal variation in the circulation of non-fiction books in the Honolulu library.

The information on Quaker meetings is being collected and studied by Carle Brawner who attends the Orange Grove meeting. The figures he used to compute the seasonal line shown below begin with 1956, and will doubtless improve as additional data are added. Nevertheless, the similarity to the traditional intellectual seasonal pattern is evident.

Mr. Brawner noted the number of people who spoke at the Meeting each Sunday—whether it was 2 or 5 or 9. When he had over three years of record he worked out the seasonal pattern and sent along the charts shown below.

Mr. Brawner has quite a project going on this subject and is attempting to enlist the aid of Quakers in other places to enlarge his data.

Vocal ministry is a particularly apt measurement of religious response; some explanation may be in order here. The Quaker Meeting does not have a planned service with carefully prepared liturgy and sermon. Rather, from those gathered to commune together, anyone may arise and speak when "moved by the Spirit" to do so.

Participation involves (perhaps) much more of a personal contribution than just attending church. The interesting point is that participation increases in the autumn of the year.

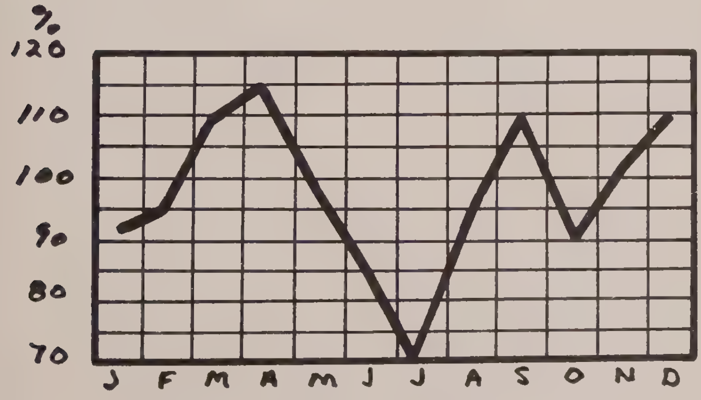


Fig. 1 Seasonal Pattern of Vocal Ministry at Orange Grove Meeting, Pasadena, California

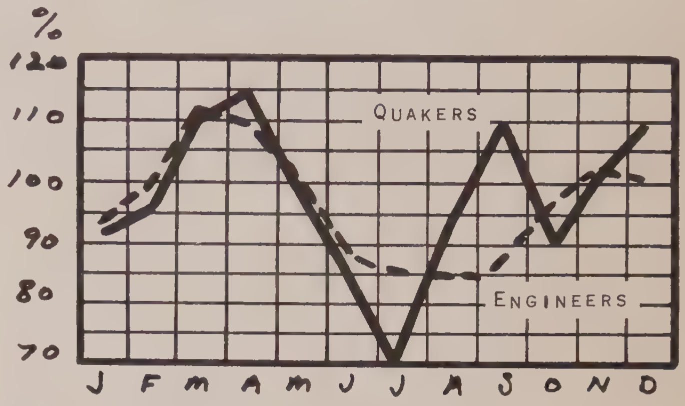


Fig. 2 Comparison of Seasonal Pattern of Vocal Ministry at Orange Grove Meeting with the Seasonal Pattern of Participation in Regular Meetings of Engineering Societies

Engineering Societies curve is from Figure 45, page 351, *Mainsprings of Civilization*. Copyright 1945 by Ellsworth Huntington, Published by John Wiley and Sons, Inc., New York.

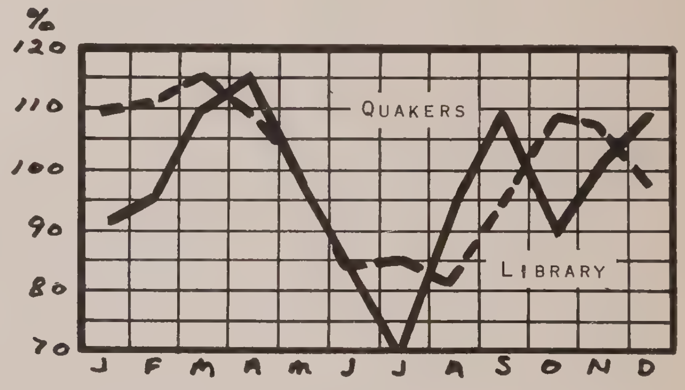


Fig. 3 Comparison of Seasonal Pattern of Vocal Ministry at Orange Grove Meeting with the Seasonal Circulation of Non-Fiction Books at the Honolulu Library

Honolulu Library curve is from Figure 46, page 352, *Mainsprings of Civilization*. Copyright 1945 by Ellsworth Huntington. Published by John Wiley and Sons, Inc., New York.

Letters to the Editor

CYCLES OF THE MOON

Dear Mr. Dewey:

I have just finished reading Part III of "Cycles, The Science," in which you dwell upon the moon as a cause of cycles. I consider Part III as one of the most interesting articles which has yet appeared in *Cycles* magazine.

And now after that compliment, may I "pull your leg" a bit. On Page 201 you state that "the tides on the East end of the Panama Canal run around about a foot, while forty miles away on the Pacific side the tides run 12-16 feet". The East end of the Panama Canal is the Pacific side. I know you won't believe me until you look at the map.

New York, New York Jack A. Dorland

Comment: You were never righter! We should have said Caribbean end instead of East end.

E. R. D.

THE STOCK MARKET

Dear Mr. Dewey:

I would suggest a synthetic cycle of the Dow-Jones Industrial Stock Averages based on the composite cycle of each individual stock of the 30 industrials.

The magnitude of each individual stock should increase or decrease from time to time based upon that industry's relative overall economic weight.

Levittown, Pennsylvania Earll R. Muddiman

* * *

Dear Mr. Dewey:

Isn't it possible that some new factors are entering into the stock market that were not present when you made your stock market cycle analysis a few years ago, which are tending to keep the average from more closely following your synthesis today?

In 1954 Congress eliminated income taxes on the first $50.00 of dividend income and permitted a 4% credit on the rest.

In 1954 there were less than 7.5 million stockholders in American industry, compared to almost 12.5 million today, plus an estimated 1.4 million owners of private corporations.

Inflation and the fear of more inflation probably have caused significant numbers of middle and lower income people to enter the market recently and to remain in it as a hedge, as never before. This builds demand pressure.

New industries with their respective growth and development patterns, and new products manufactured by old companies, also must be having their effect on holding up the market average. Examples: electronics, petrochemicals, plastics, drugs, pharmaceuticals, computers, transistors, synthetic rubber, missiles, etc.

Maybe we need separate syntheses by industry and, to carry it to extreme, by individual stock, since one or more industries or stocks can rise in a falling market, and vice versa.

Miami, Florida Ben N. Criswell

Comment: Yes, there are new factors in the market today which must be taken into account if one is making a market analysis á la the fundamentalists. But there have *always* been new factors. The market is not now static, and never has been. "It will fluctuate," to quote Mr. Morgan.

It seems to me that the effect of constantly changing fundamental factors is integrated into the figures we use in our cycle analysis.

There are always several sides to any one of these factors, also. For instance, it is true that 12.5 million shareholders create a higher demand base line than 7.5 million shareholders. Is it not also true that 12.5 million shareholders can make a much bigger panic than 7.5 million? That's 5 million additional people calling their brokers!

The suggestions that the analysis should be on an industry, or better still, an individual company basis are good. The work involved in such an undertaking would be stupendous, but it is intriguing!

G. S.

POPULATION PROJECTION

Dear Mr. Dewey:

I dislike taking time on unimportant matters but I don't know how else to satisfy my curiosity.

In your book "Cycles" 1947 ed. (p.15) there is a graph showing that eventually the population of the United States will reach 197,274,000 and would be around 160,000,000 now. The Census Bureau claims that on May 1 the population was 176,665,000 and I note the Metropolitan Life Insurance Co. estimates the population will be 208,000,000 by 1970.

Have you found it necessary to revise your graph, or are these population statistics misinterpreted?

Osage City, Kansas Ross Nettleblade

Comment: Even on a straight road it is necessary to keep adjusting the steering wheel of a car to keep it on the road. This is even more true if the car is on a curve.

So it is with any long range projection, either of trend or of cycles. Such a projection needs to be trued up each year because even the slightest error in the angle gets magnified for each year that the projection sticks out into the future.

Remember too that the chart in *Cycles* was a projection made by Pearl in 1925, and that it doubtless referred to Continental United States only. Also that the spurt of the last few years will doubtless be corrected by a lag a few years hence.

E. R. D.

TREND OF THE F R B INDEX

Dear Mr. Dewey:

In view of the coming revision which the Federal Reserve Board is making in its Index of Industrial Production I have been wondering to what extent that revision would cause a change in the graph and the text of your article entitled "Recent Trends In Industrial Production" in the June, 1959 issue of *Cycles*.

Offhand, it would seem that the revised graph of the Index would fit much better into the channel provided for it on Pages 126 and 127, than did the original one. The difference would particularly hold true for the most recent years.

I am also wondering to what extent this revision might effect your comments in the text about the slow down in the rate of growth in industrial production.

Do you intend to republish the graph and the article after the revised index figures for prior years are released by the Federal Reserve?

Beverly Hills, California Leo D. Fialkoff

Comment: Apparently the revision now underway was caused by the fact that the Federal Reserve Board Index growth rate (as indicated by our chart) was lower over the past ten years than the growth rate as indicated by other measures, equally valid.

Measuring economic growth while it is going on is very tricky, to quote Mr. Martin of the Federal Reserve Board. The chief result of the revision will be an upward tilt to the present line—the contour of the month-to-month changes will be about the same. Your comment that a revised line will fit the previously established channels better than the unrevised line is true.

We shall certainly republish the graph and revise the comments according to the new data when they become available.

E. R. D.

PRO AND CON

Your Director's Letter in the September issue is so excellent that I am impelled to commend you upon it. In fact, each issue of *Cycles* is read with intellectual profit. Congratulations upon your curiosity, devotion, energy.

* * *

I fear the mathematics of *Cycles* are simply beyond my educational level.

* * *

I believe you should devote more effort to economic matters. The average man is interested in his own survival, and not in Canadian lynx, or the evening grosbeak.

* * *

Disregard the people who want to make a killing on the market and concentrate on all the cycles.

* * *

Although some of the articles are over my head, I find the reports stimulating.

* * *

Your blue books are the best thing I get in the mail (checks excepted). I use the material for endless "conversation starters."

Chapter Affairs

NEW YORK

The November meeting of the New York Chapter will be held on the 17th. Willard J. Pierson, Jr., Professor of Meteorology at New York University will speak on the subject "Proving the Existence of True Cycles."

At the December meeting E. R. Dewey, Director of the Foundation for the Study of Cycles, will speak on the subject, "A Review of My Stock Market Predictions." This meeting will be held on December 17.

For reservations, checks should be mailed to the Treasurer, Paul H. Halladin, 24 Oakview Avenue, Maplewood, New Jersey.

The Cycle Round-up

NOVEMBER 1959

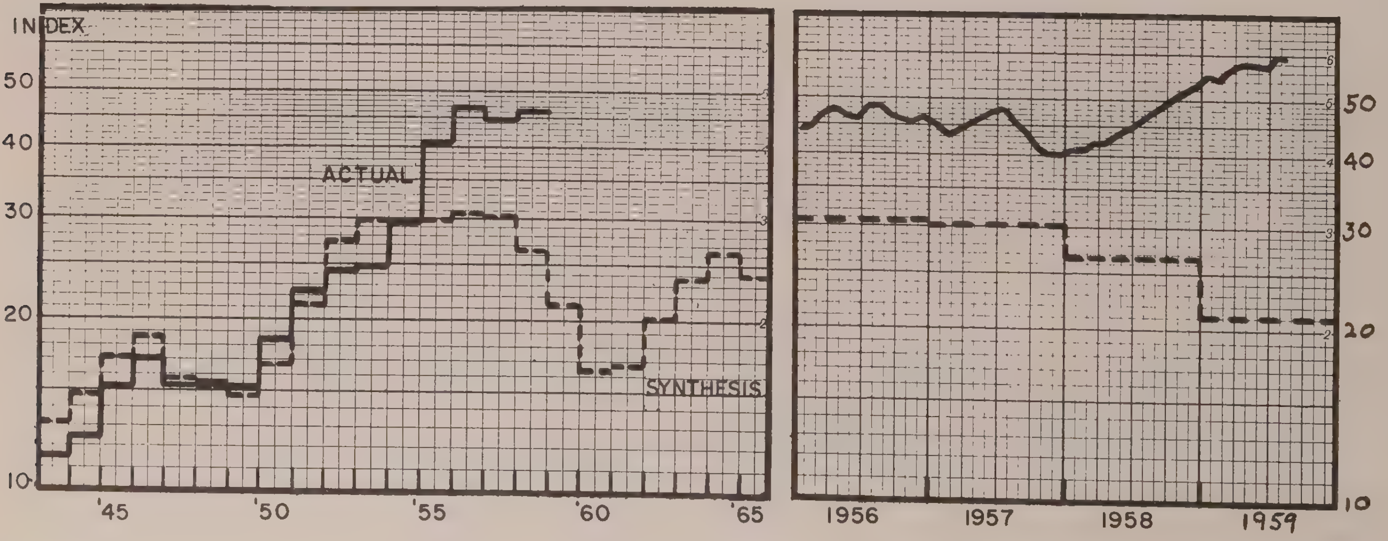
For those of you who are following any of the series we review from time to time in this section, the recent figures are reported below.

LATE FIGURES

Series	Unit	Month	Amount
Aluminum Production	Thousand tons	July	179
Automobile Factory Sales	Thousand cars	July August	549r 239p
Copper Prices--Electrolytic, New York	Cents per pound	August	29.89
Cotton Consumption	Thousand bales	July	650
Liabilities of Business Failures—from Dun & Bradstreet, Inc.	Million dollars	August	54.5
Manufacturing Production—F. R. B. Index, Seasonally Adjusted	1947-49 = 100	July August	157 152p
Oats Prices--No. 3, White, Chicago	Cents per bushel	August	70.4
Stock Prices--Standard & Poor's Combined Index	1941-43 = 10	August	59.40
Unemployment	Per Cent	August	4.85

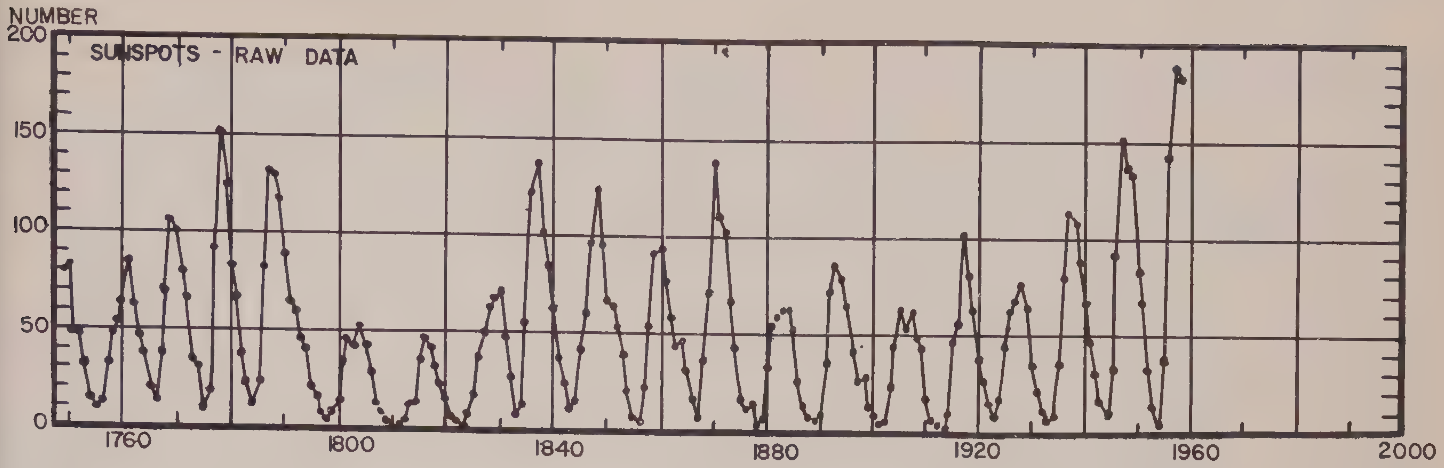
p - preliminary; r - revised

STOCK PRICES



SUNSPOT NUMBERS

Sunspot numbers in August averaged 198.0. The lowest was 125 on August 13 and the highest 301 on August 29.



COTTON PRICES

In February we published a review of the 5.91-year cycle in cotton prices. The report concluded that, although the 5.91-year cycle has been present in cotton prices since 1731, it was currently not working. The chart below is from that article. As you can see, the situation has not changed since our February report. The price of cotton in July was 33.6 cents per pound (wholesale, middling 1 inch, average 14 markets).

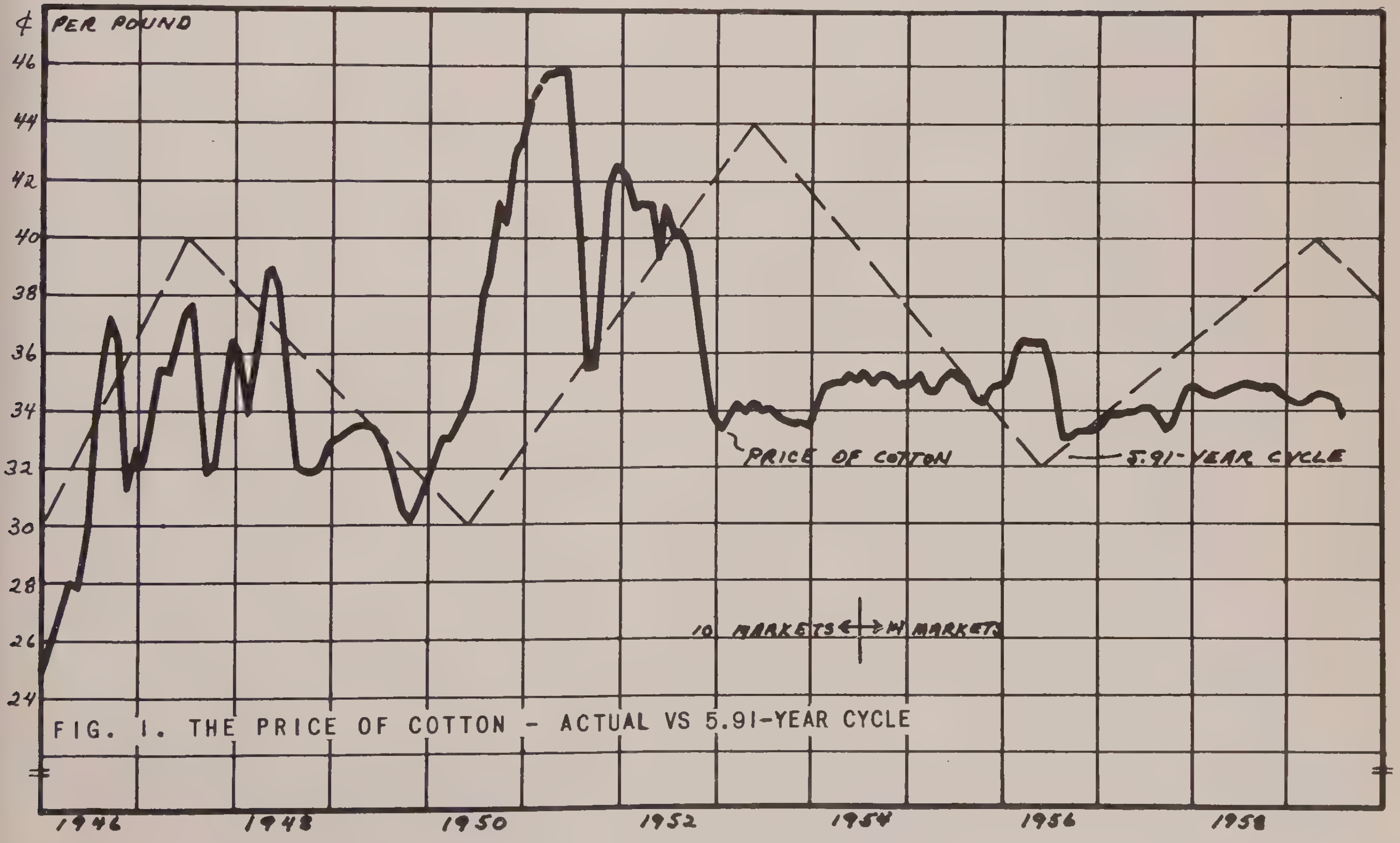
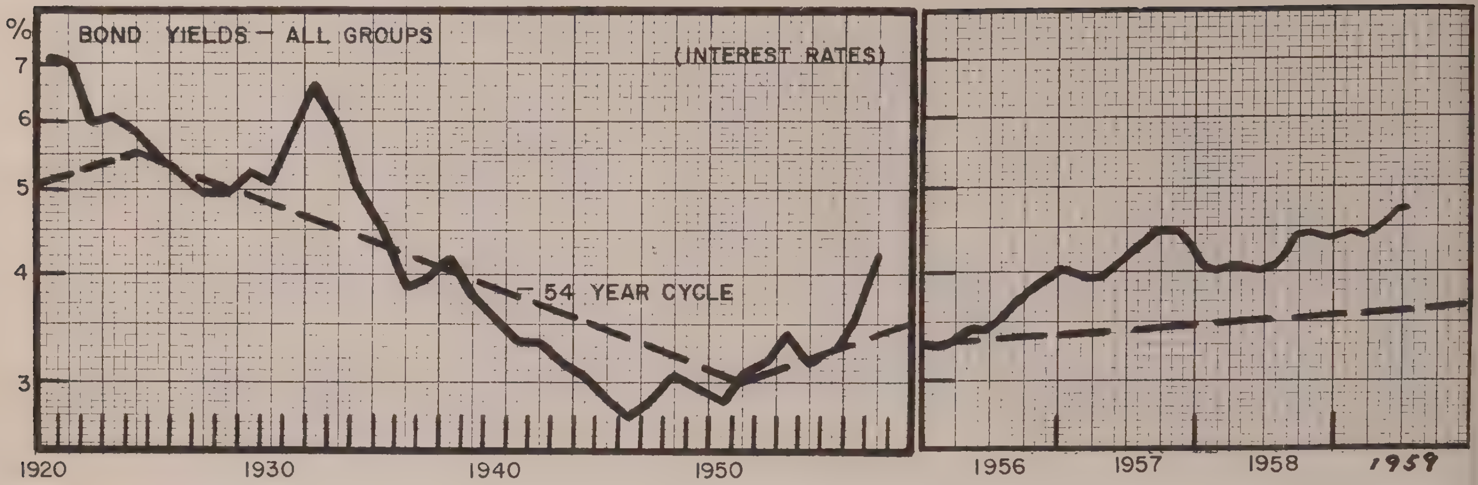


FIG. 1. THE PRICE OF COTTON - ACTUAL VS 5.91-YEAR CYCLE

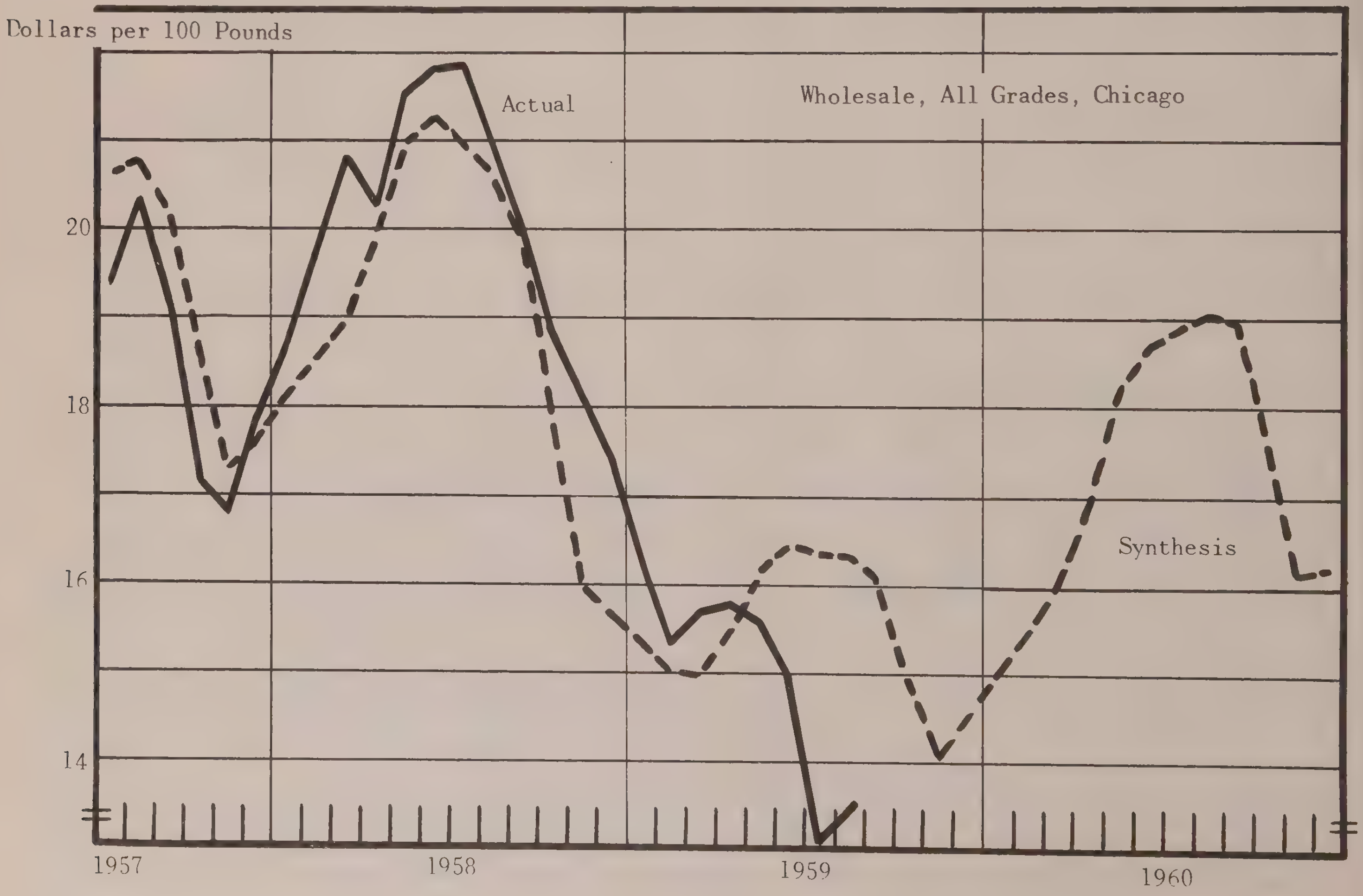
BOND YIELDS

Yields of all domestic corporations as prepared and published by Moody's went up to 4.72% in July.



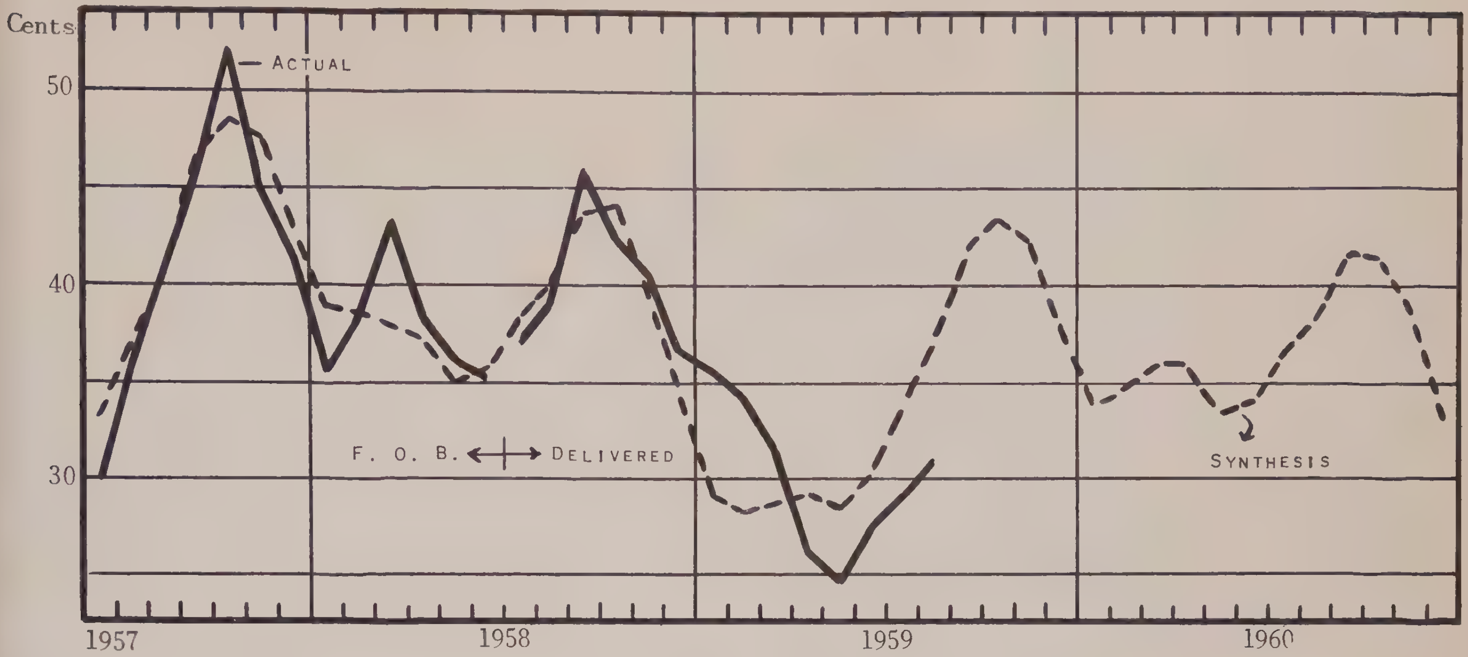
HOG PRICES

Hog prices moved down to $13.02 in July, and $13.56 in August, contrary to the usual seasonal pattern.



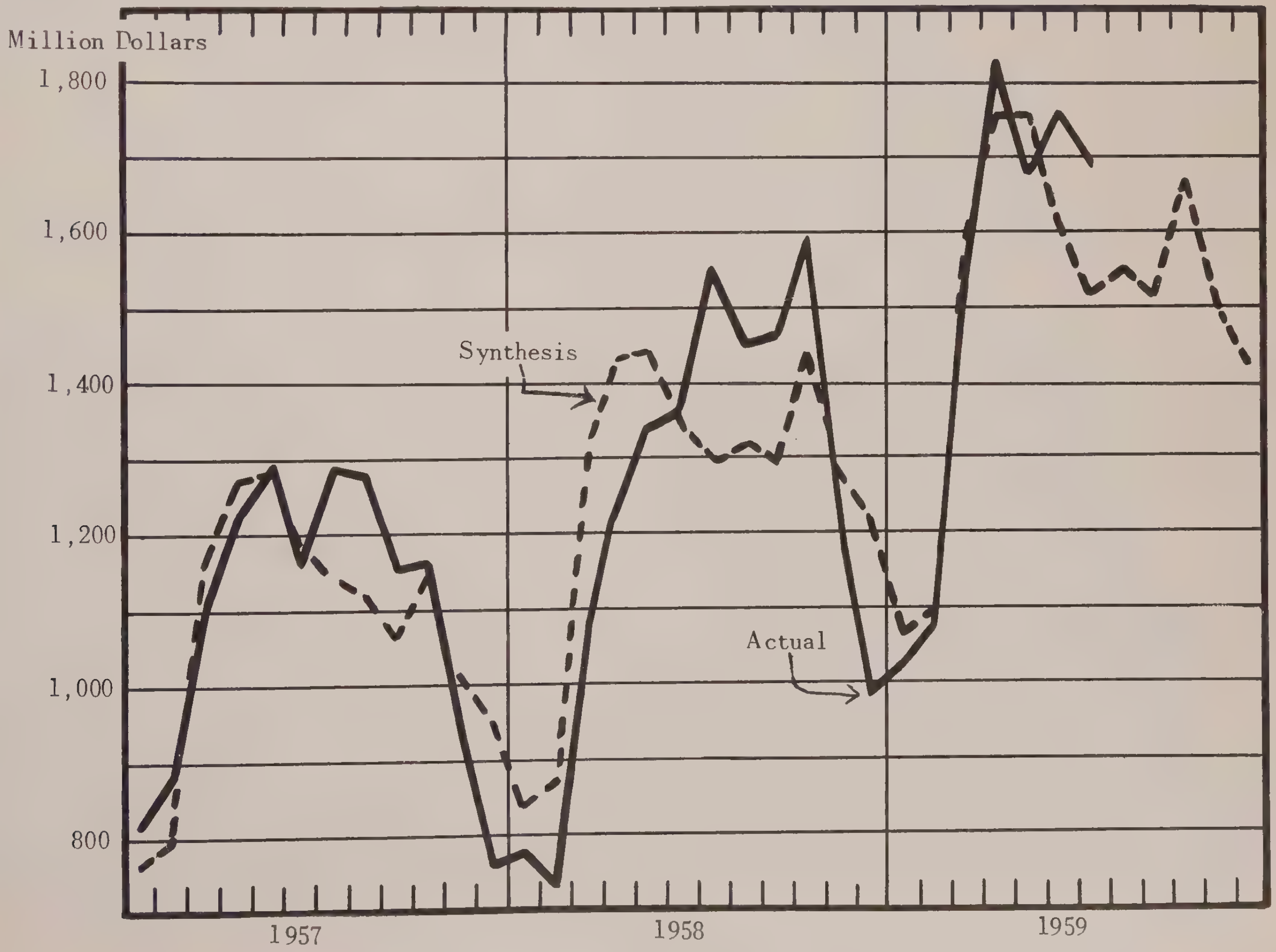
EGG PRICES

The price of eggs, wholesale, extras, large, at Chicago in July was 31.2 cents per dozen.



RESIDENTIAL BUILDING

Residential construction contracts let in July amounted to $1,690 million, according to F. W. Dodge Corporation.

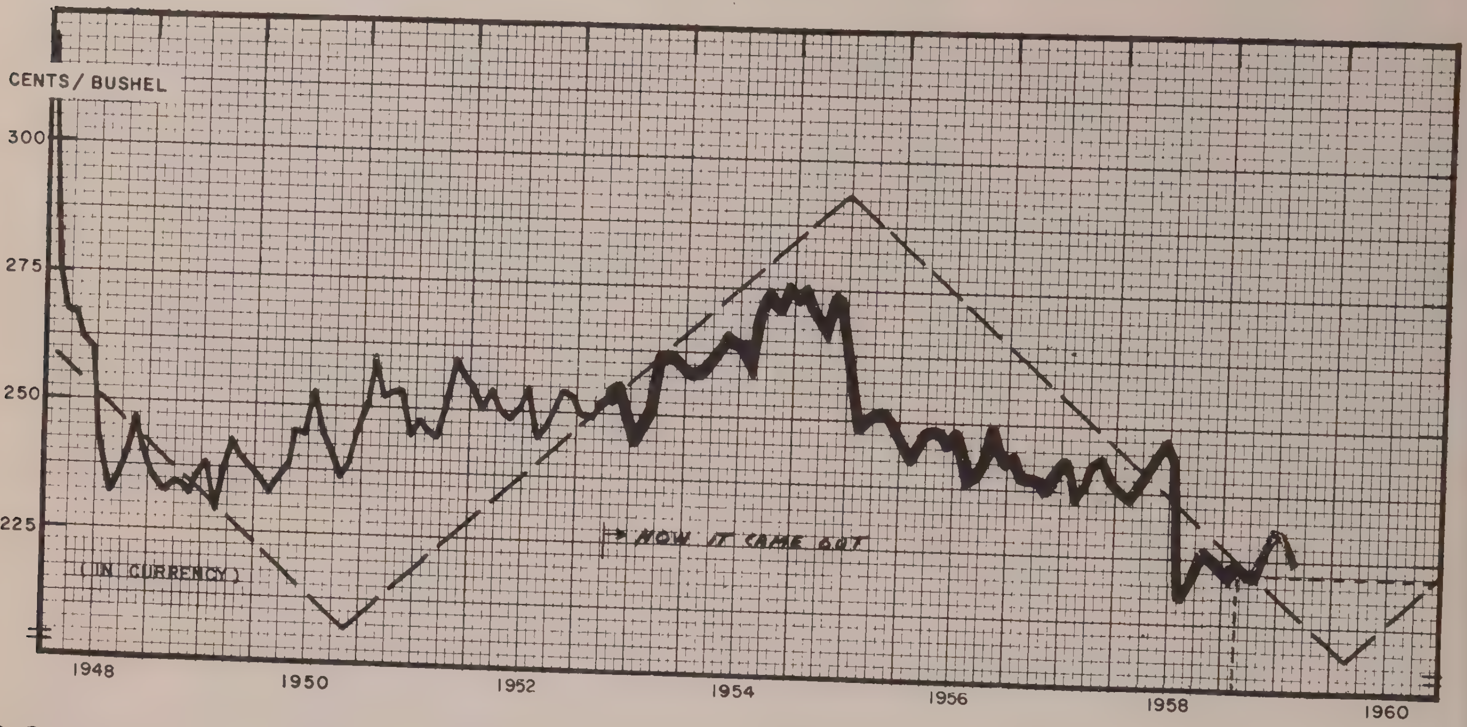


WHEAT PRICES

The broken line on the chart below represents the average 9.3-year cycle which has been present in wheat prices since 1859. The cycle is now on the way down to a low due, on the average, at February 1960.

The odds are 50-50 that the *actual* low will fall between February 1959 and February 1961, and 5 to 4 that the low price will be between $2.22 and $1.50.

In August the price of wheat at Minneapolis was 224.1 cents per bushel.

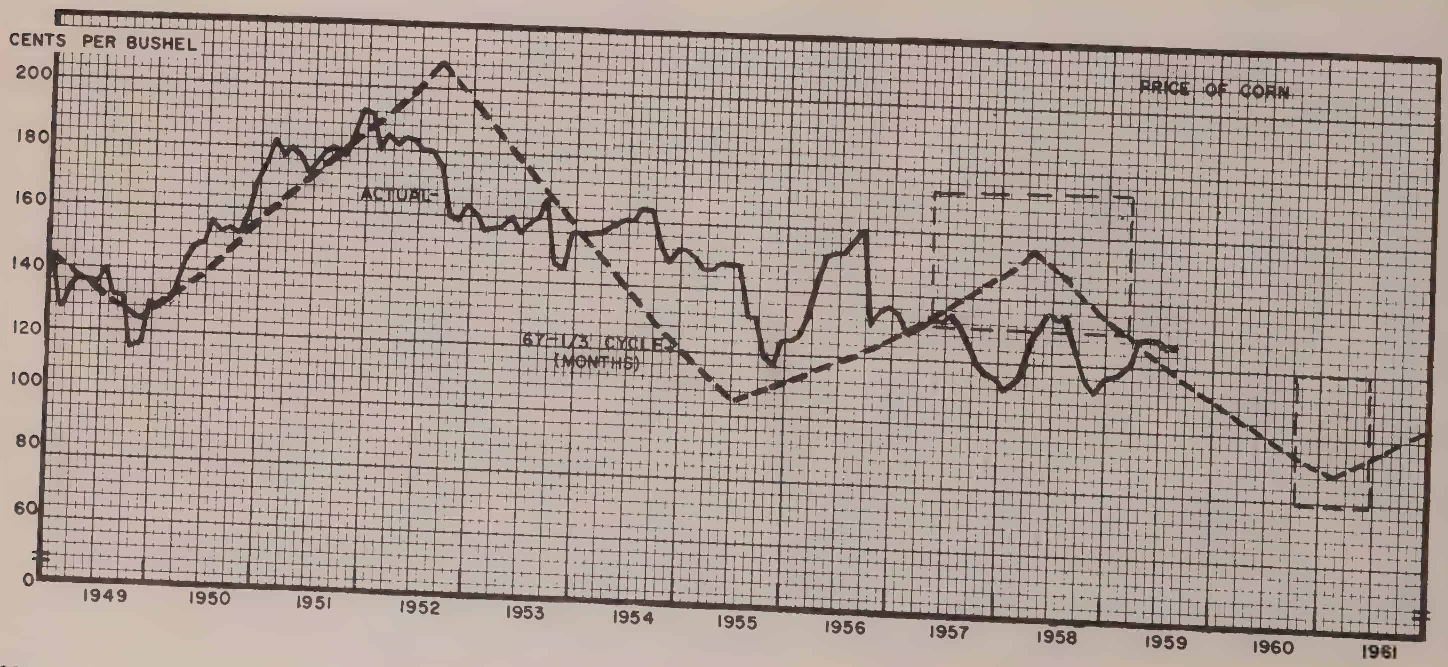


CORN PRICES

The price of corn has been dominated in the past by a 67 1/3-month (5.61 year) cycle. This cycle is shown by the broken line on the chart. The next ideal (average time of) low is February 1961.

The box on the chart shows the limits within which the actual low will most probably fall.

The price of No. 3 yellow corn averaged 127.2 cents per bushel in August.



The Geisinger Indicator

FORECAST

In August the Federal Reserve Board's seasonally adjusted Index of Industrial Production went down to 149, a drop of 4% from the all-time high of 155 in June. The parts of the Index which measure durable manufactures went down at a greater pace, but the high level of non-durable production held the total up.

The First Difference Indicator, which is based on the F. R. B. Index, has turned downward, and was -0.17 in July. This type of Indicator moves ahead of the series on which it is based, and the slump here is the result of the steel strike.

The Geisinger Indicator cannot by its construction show the effect of the strike directly. Only as the depressing effects of the strike filter through the entire economy will the Geisinger Indicator turn down. The most recent final figure is for the month of May (January 1960 when advanced), when the Indicator went up to 5.00.

The Modified Geisinger Indicator (which, as you know, is merely the sum of the First Difference Indicator and the Geisinger Indicator) went up to 7.67 in May (January 1960 when advanced). This point marks the highest level the Modified Geisinger Indicator has reached since May 1950.

This month the Indicators lead to the conclusion that if the steel strike does not last too much longer, the economy should rebound quickly.

September 23, 1959 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Feb-1959	145	3.2	1.50	4.70	1959-Oct
Mar	147	4.2	2.00	6.20	Nov
Apr	150	4.6	2.50	7.10	Dec
May	153	5.0	2.67	7.67	1960-Jan
June	155	*	1.83	*	Feb
July	153	*	-0.17p	*	Mar
Aug	149p	*	*	*	Apr

p - preliminary * - not yet available

BACKGROUND

The Modified Geisinger Indicator is a series of numbers which, in the past, have gone up and down ahead of corresponding movements of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the probabilities of the future.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. It is a weighted average of tons, yards, gallons, and numbers of things produced each month.

The Modified Geisinger Indicator is the sum of two Indicators, the Geisinger Indicator and a First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published each month in the *Survey of Current Business*. It is charted for you as Curve A on pages 262 and 263.

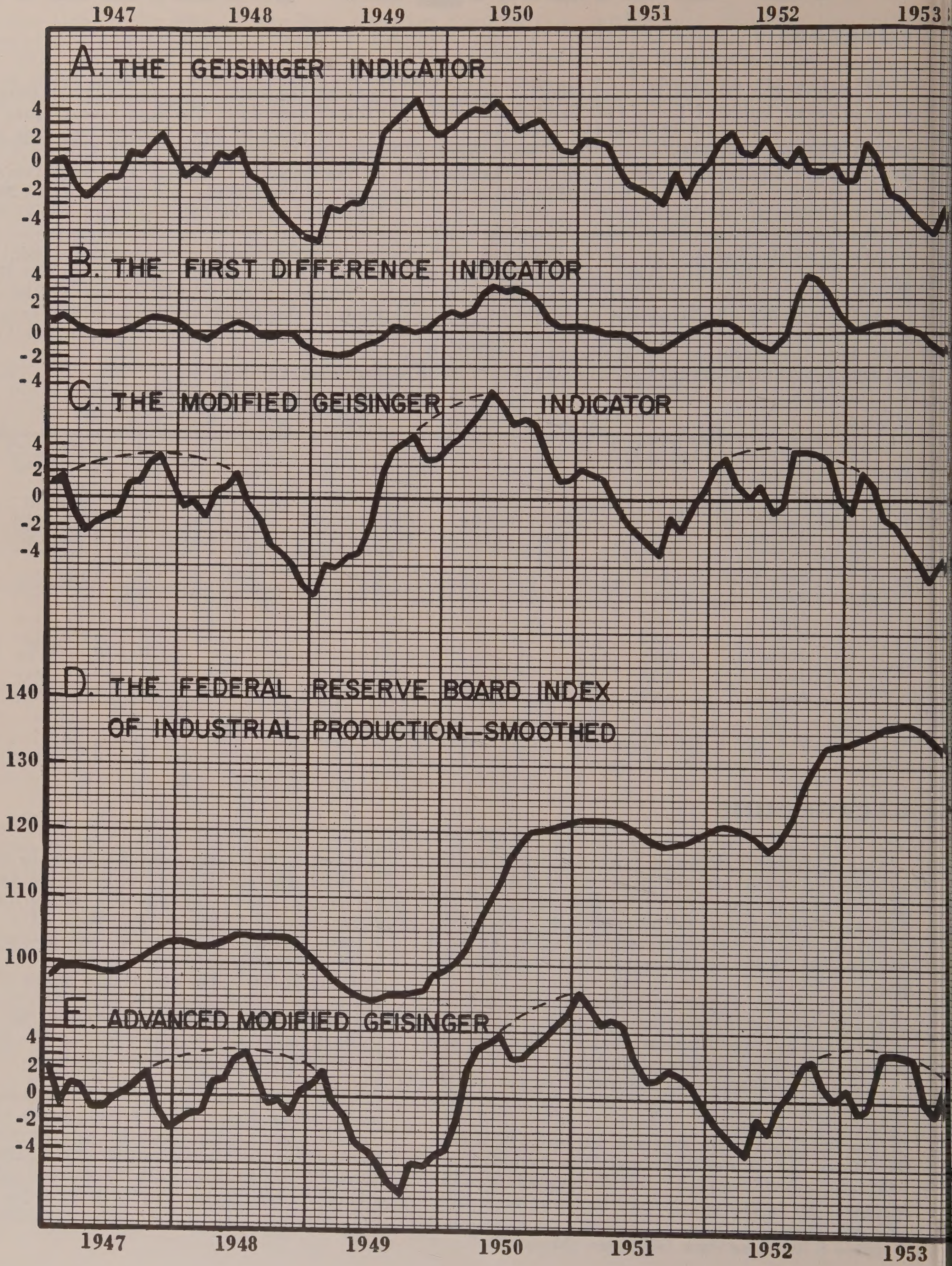
Curve B on these same two pages charts the First Difference Indicator, which is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. The smoothing is effected by means of a centered 3-month moving average and a 2-month moving average posted to the second position.

Curve C charts the sum of the values of Curves A and B. This curve is called the Modified Geisinger Indicator. It suggests in a general way what the F. R. B. Index may do some eight months later.

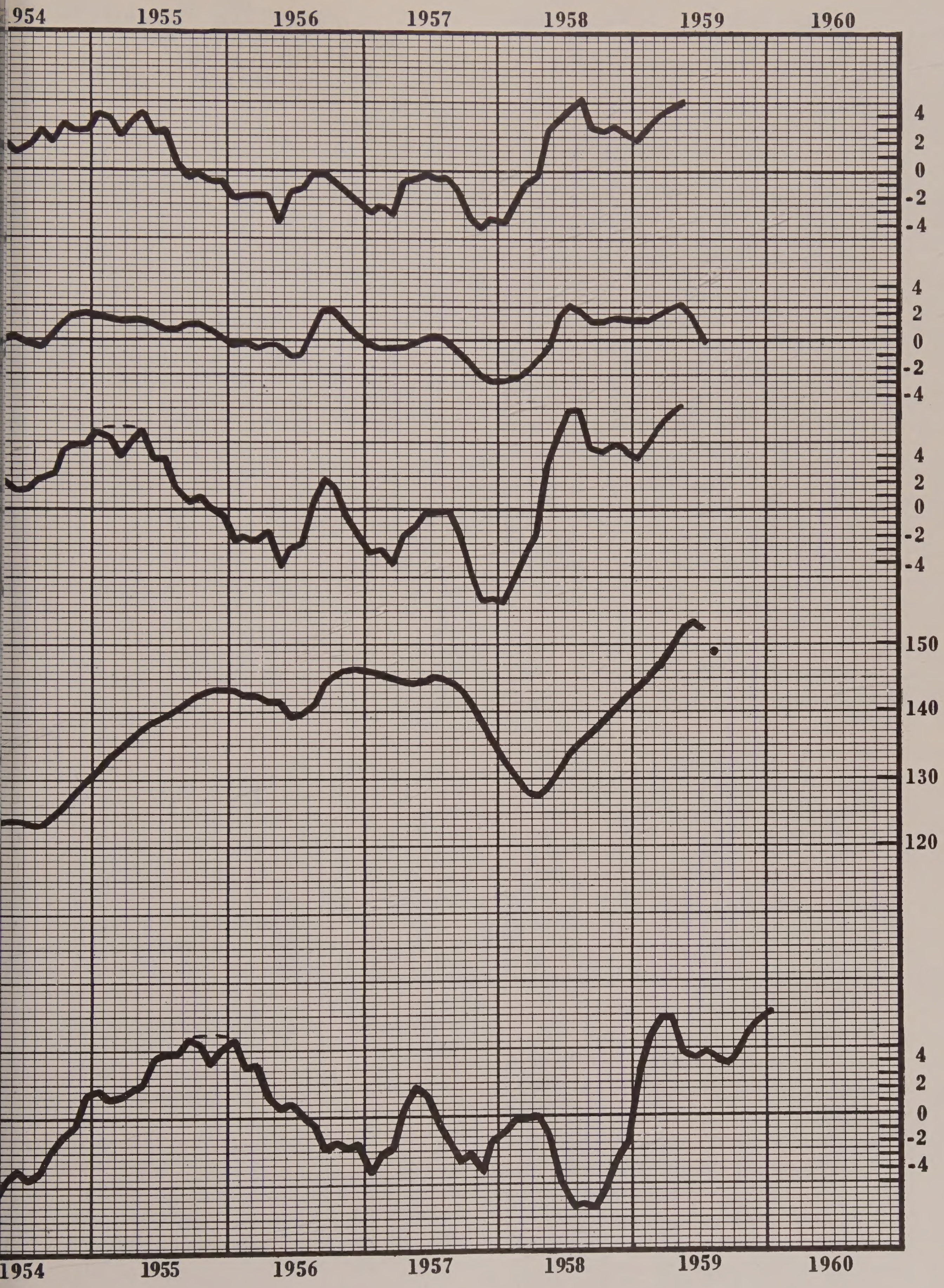
Curve D charts the values of the F. R. B. Index of Industrial Production smoothed.

Curve E re-charts Curve C, advancing it by 8 months. This advance is for two reasons (1) so that you can more easily compare the past behavior of the Modified Geisinger Indicator with the behavior of the F. R. B. Index, and (2) so that you can have a better idea of what the F. R. B. Index may do in the future.

THE GEISINGER INDICATOR



OF INDUSTRIAL PRODUCTION



Please turn to page 261 for the Forecast

H A MUSHAM
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CHICAGO, ILL